

Water, Water **Everywhere**

Coastal Resilience in Massachusetts



ResilientCoasts

October 1, 2024
Martha's Vineyard Coastal Conference

MARCH 2018 NOR'EASTER



East Chop Drive - Rich Saltzberg (MVTimes)



Edgartown Harbor and Yacht Club - Rich Saltzberg (MVTimes)



Edgartown Harbor, off North Water Street - Nan Byrne (MVTimes)



What does “Coastal Resilience” mean?

The ability to **prepare for, recover from,** and **adapt to** increased coastal flooding, coastal erosion, and associated impacts.

COASTAL RESILIENCE IN MASSACHUSETTS

Healey-Driscoll Administration has:

- Funded a record **1% of state operating budget** for Energy & Environmental Affairs two years in a row
- Unveiled a Capital Investment Plan with a **sevenfold increase** in funding for climate resilience
- Announced **\$52.4 million** in grant funding for the MVP Action Grant program, which is the largest amount of funding awarded through MVP to date
- Announced nearly **\$14 million** in funding for Dams and Seawalls this year
- Will soon be releasing FY25 grants through the CZM Coastal Resilience Grant program totaling **\$5 million** in funding for coastal communities and eligible nonprofits
- Launched the **ResilientCoasts** Initiative to create a comprehensive statewide framework for coastal resilience

Massachusetts Coast Flood Risk Model

Zoom in to view Massachusetts Coast Flood Risk Model (MC-FRM) scenarios and community facilities and infrastructure.

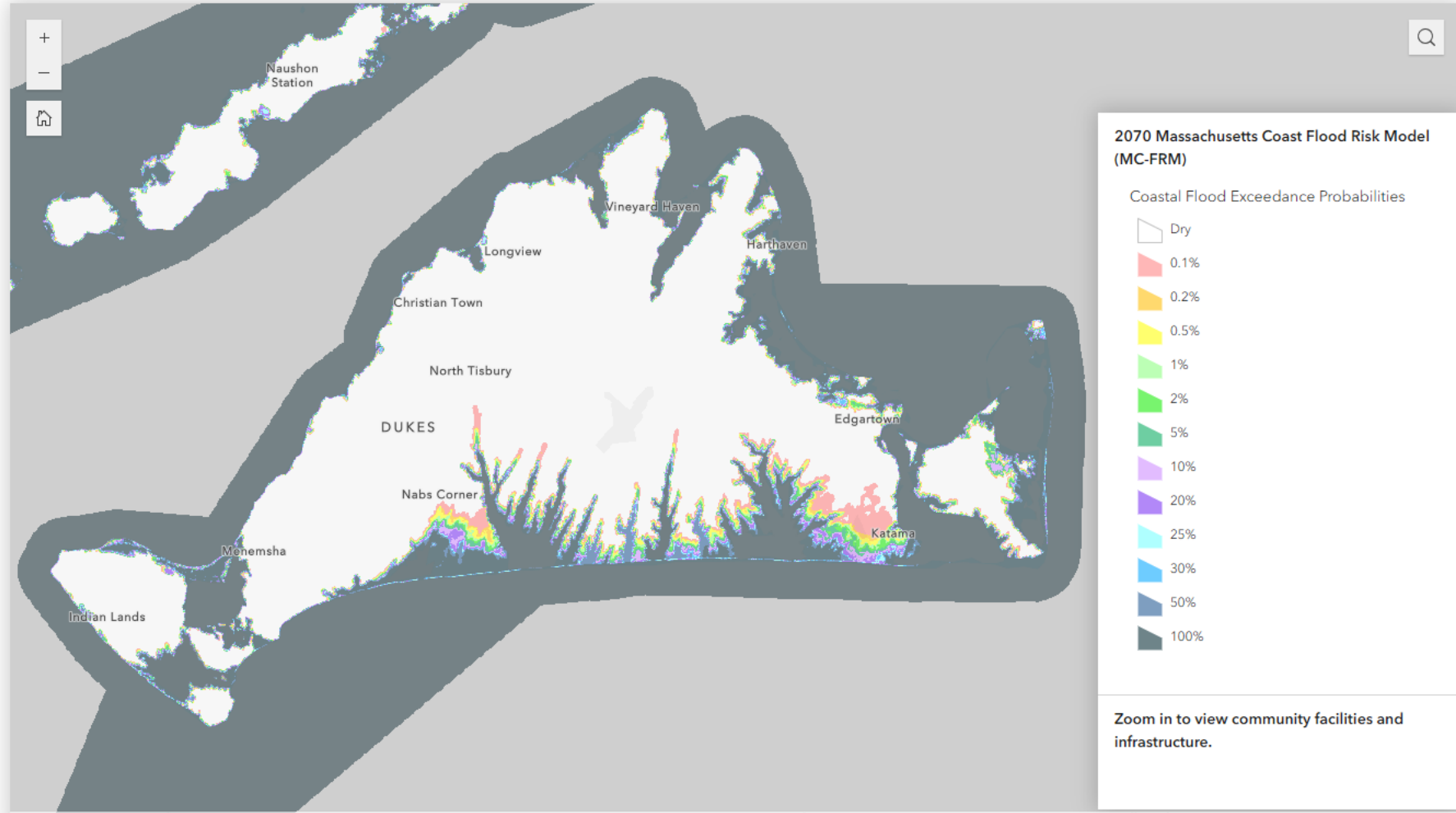
This interactive map and associated scenarios display extents and depths of flooding produced from the MC-FRM for 2030, 2050, and 2070. The future time horizons account for sea level rise due to continued high emissions of greenhouse gases and storm surges associated with coastal storms (hurricanes and northeasters). See below for the sea level rise projections from a baseline year of 2000.

Region	Relative Mean Sea Level (feet, NAVD88)		
	2030	2050	2070
North (Salisbury to Provincetown)	1.2	2.4	4.2
South (Provincetown to Westport)	1.2	2.5	4.3

The **Flooding** scenarios (e.g., 2030 Flooding) display the full range of annual coastal flood exceedance probabilities (ACFEP). Coastal Flood Exceedance Probabilities shown in the legend display the modeled outputs ranging from 0.1% (0.001, otherwise known as the 1,000-year storm) to 100% (1.0), which corresponds to the one-year storm.

The **Flood Depths** scenarios (e.g., 2030 Flood Depths - 1%) show the relative depth of water above land during a coastal flooding event with a 1% ACFEP.

To use the interactive map, zoom in to explore the MC-FRM layer. The map legend shows either the ACFEP range (for **Flooding** maps) or incremental Flood Depths (for **Flood Depths** maps). Zoom in further to display the community facilities and infrastructure symbols on the map and in the legend. Click a symbol for a pop-up box displaying the facility name and other information.

[2030 Flooding](#)
[2030 Flood Depths - 1%](#)
[2050 Flooding](#)
[2050 Flood Depths - 1%](#)
[2070 Flooding](#)
[2070 Flood Depths - 1%](#)


MyCoast:

Massachusetts

A project of the Massachusetts Office of Coastal Zone Management

MyCoast: Massachusetts is a portal for the Massachusetts Office of Coastal Zone Management to collect and share photos and observations of coastal flooding, coastal storm impacts, and shoreline adaptation. MyCoast reports help increase awareness of coastal hazards and inform coastal management. Scroll down to view reports and learn how to submit your own.



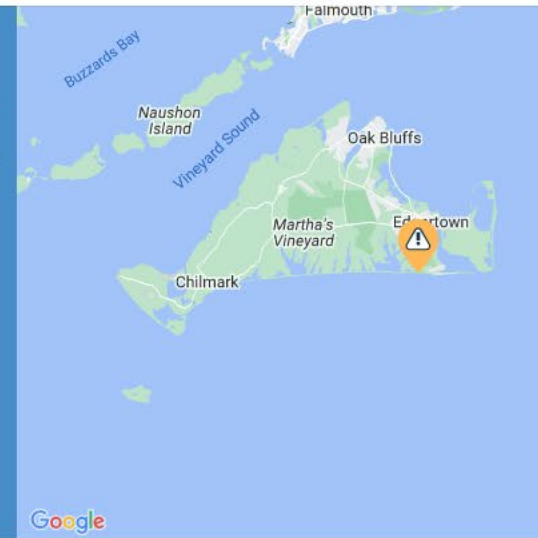
Massachusetts Office of
Coastal Zone Management

Edgartown, MA (Atlantic Drive - Lifeguard Shack (Donnelly House)) Dukes County

Storm Report

01/10/2024 | 6:40 am

Impacts Reported



01/10/2024 | 6:40 am

Tidal Overview

8 hours 8 minutes after high tide

Data from OCEANOGRAPHIC INSTITUTION (14.6 miles away)

Water Level (at time of report): 6:40 am, 5.5'

High Tide (Predicted): 7:00 am, 2.5'

High Tide (Observed): 7:24 am, 5.3'

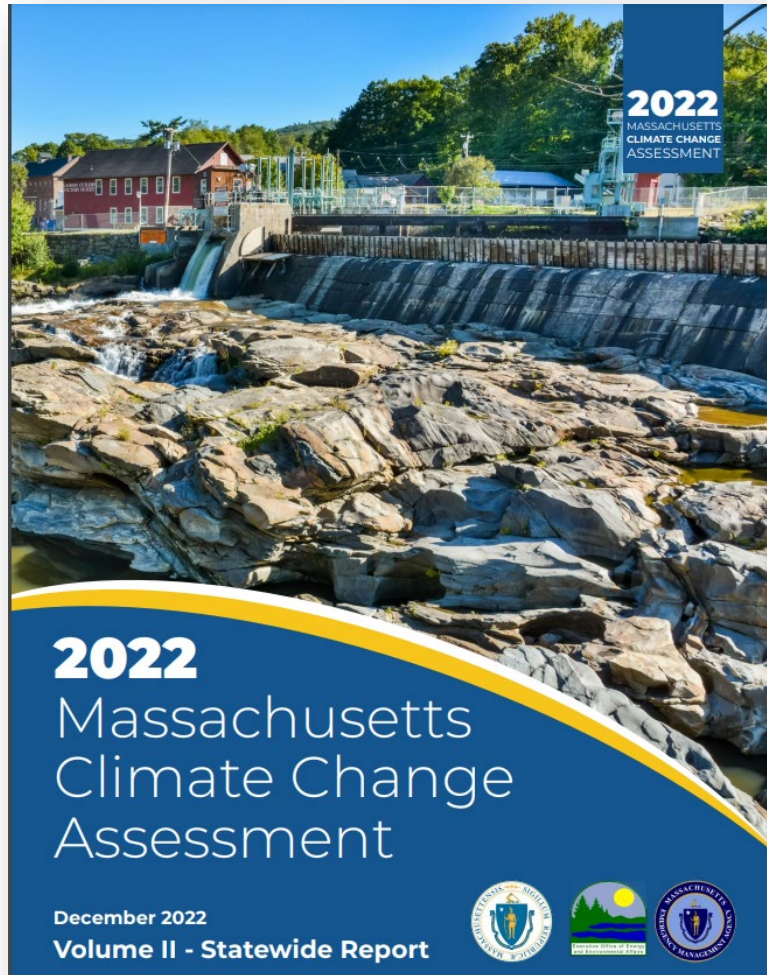
Observed Predicted water level Report time



An aerial photograph of a coastal wetland, showing intricate patterns of water channels and mudflats. The image is overlaid with a semi-transparent blue filter. The text 'ResilientCoasts' is centered in the middle of the image.

ResilientCoasts

MA CLIMATE CHANGE ASSESSMENT (DEC. 2022)



KEY FINDINGS ABOUT OUR COAST

- Coastal impacts on people & ecosystems are increasing due to sea level rise & changing coastal storms
- During extreme storms, road flooding causes delays in emergency response, potentially leading to loss of life
- Storm surge & coastal erosion cause property & infrastructure damages
- Sea level rise leads to coastal habitat shifts & loss of salt marshes & beaches

RESILIENCE PLANS AND INITIATIVES (2023 – PRESENT)



SEPT 2023

ResilientMass



RECOMMENDATION FOR COASTAL RISKS:

“Develop a coastal resilience strategy that considers climate resilient development and standards in vulnerable areas, develops best practices for coastal adaptation, and explores managed retreat.”



NOV 2023



ResilientCoasts

Coast-wide planning process launched to develop a comprehensive framework for coastal resilience to guide state & local policy & management actions.

GOALS FOR A RESILIENT COAST

GOAL 1: Improve **human health and safety**

GOAL 2: Protect and enhance the value of **natural and cultural resources**

GOAL 3: Increase resiliency of **built infrastructure functions**

GOAL 4: Strengthen the **coastal economy**

GOAL 5: Advance **equity** and **environmental justice**

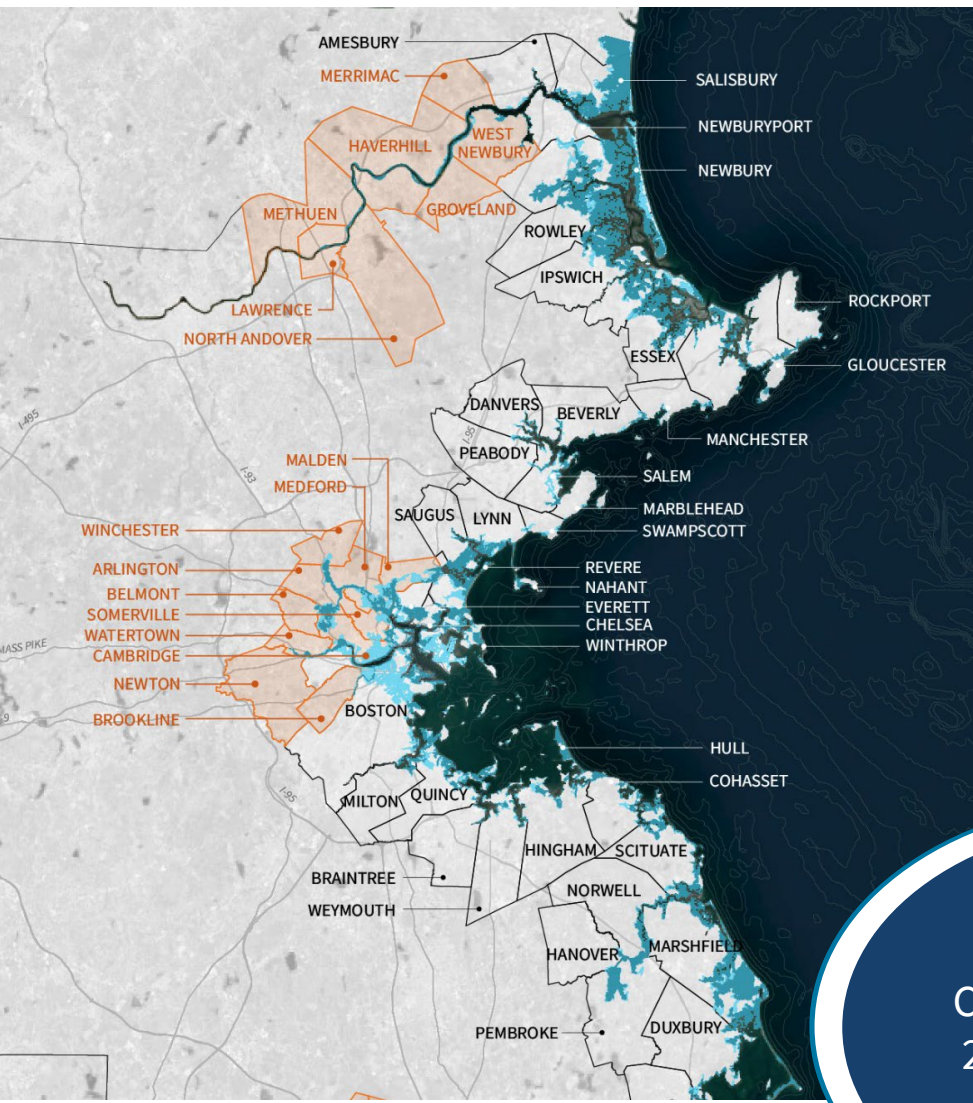
GOAL 6: Support the **capacity of coastal communities**

COMMUNITIES WITH NEAR-TERM COASTAL FLOOD RISK



78 COASTAL COMMUNITIES (IN ORANGE)

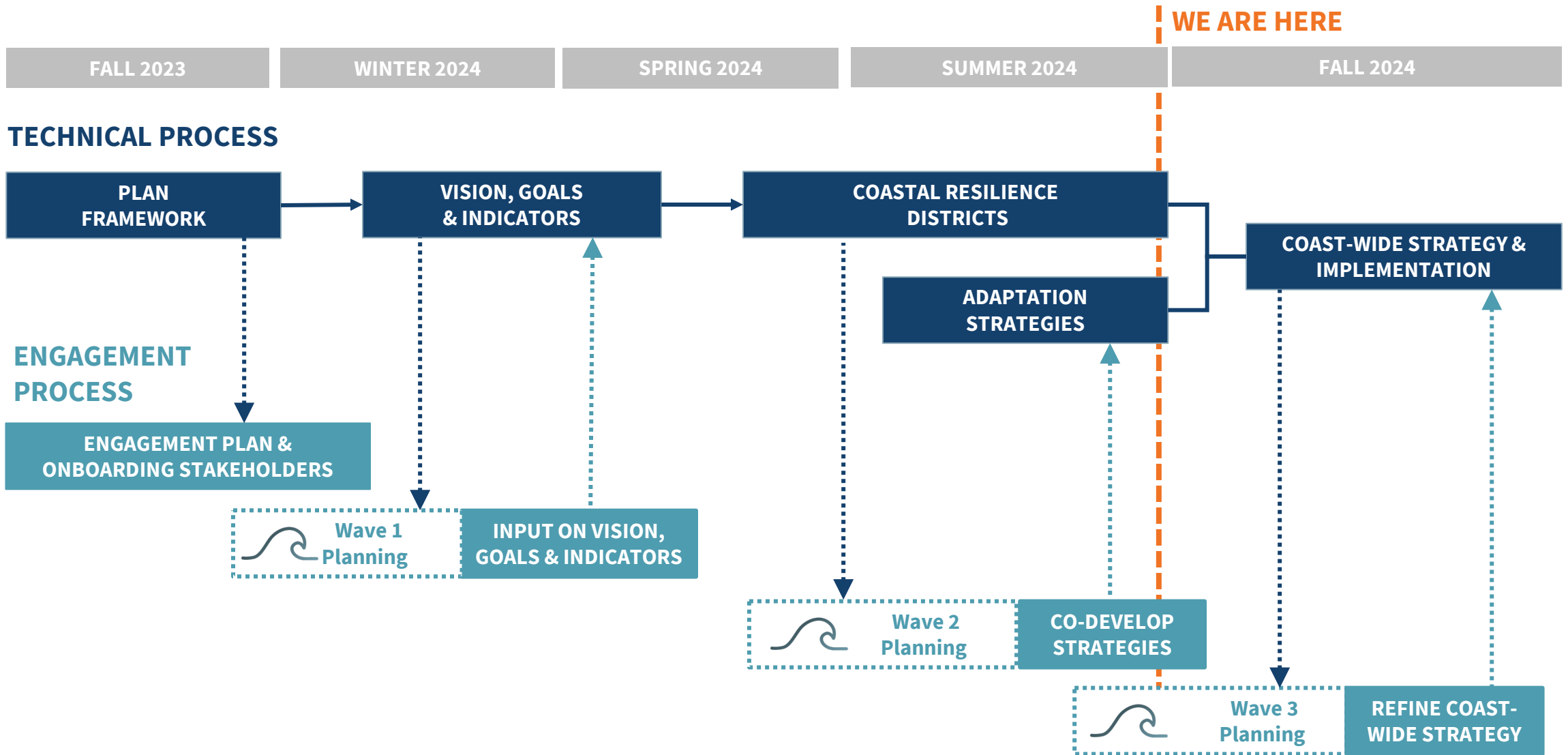
COMMUNITIES WITH LONGER-TERM COASTAL FLOOD RISK



78 COASTAL COMMUNITIES + 20 ADDITIONAL ALONG RIVERS

Extent of Coastal Resilience Districts in blue

TIMELINE



APPROACH TO THIS PLAN

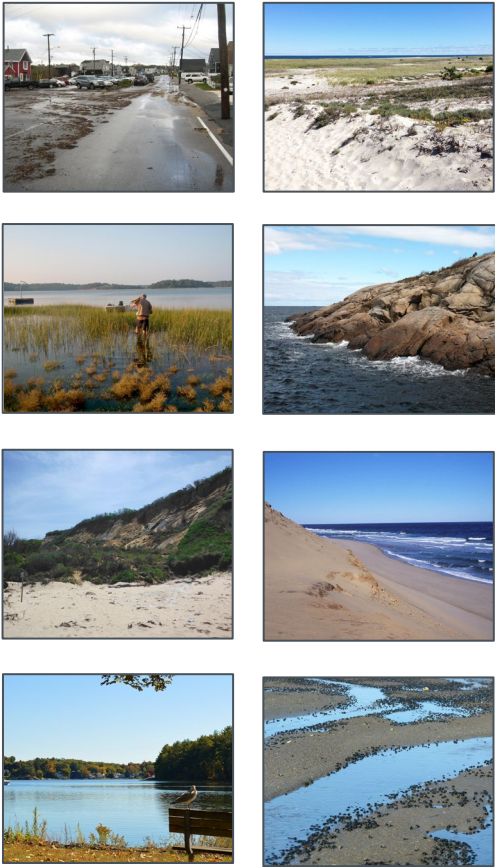
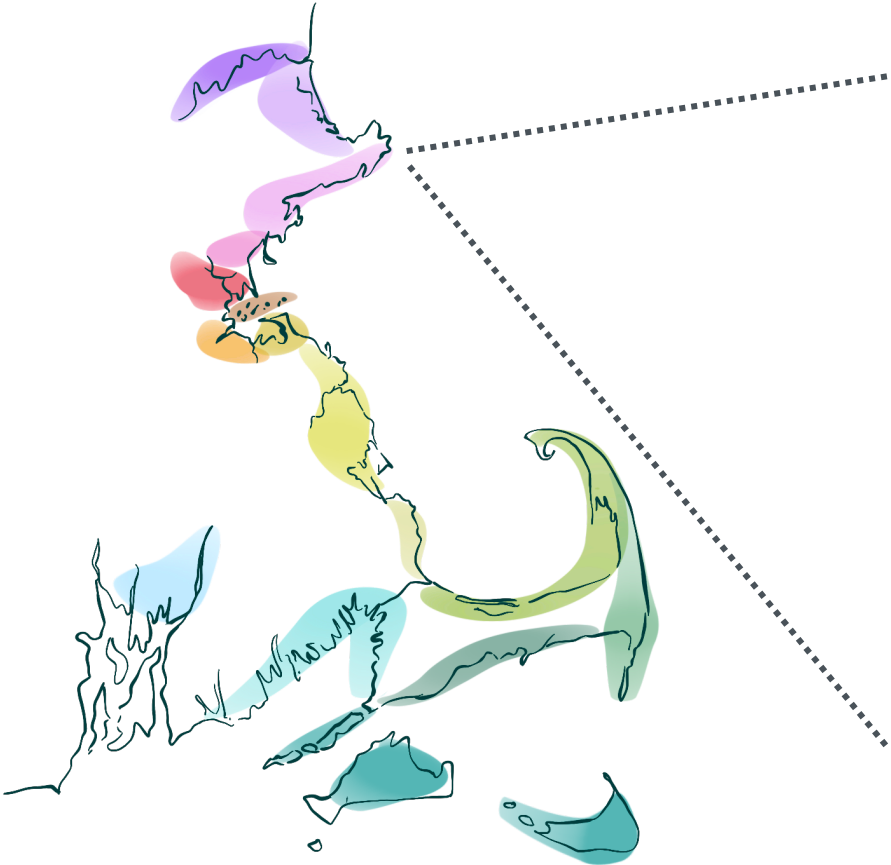
COASTAL RESILIENCE DISTRICTS



COASTAL TYPOLOGIES



ADAPTATION STRATEGIES



COASTAL RESILIENCE STRATEGIES

AVOID/PREPARE

Avoid and/or prepare for coastal hazard risk by proactively intervening in an area to prevent putting people, homes, critical facilities and infrastructure at risk and building community expertise, capacity, and networks.

ACCOMMODATE

Accommodate coastal hazards by using adaptive strategies designed to allow continued use of flood-prone areas by improving the ability of people, communities, and infrastructure to experience occasional flooding or limit damage from flooding.

PROTECT

Protect people and assets from risk by keeping flood waters away from homes, communities, critical facilities and infrastructure.

RESTORE

Restore and enhance the functioning of natural systems to protect people and property from coastal hazards.

RETREAT

Reduce or eliminate exposure to coastal hazards by enabling the relocation of people, property, and critical infrastructure, and sites of historic or cultural significance out of areas vulnerable to recurrent hazards.

UPCOMING OPPORTUNITIES FOR ENGAGEMENT

PUBLIC MEETING

ResilientCoasts

Join us to learn about the plan, hear updates on progress, and provide input on what a resilient Massachusetts coast means to you. The two meetings will be identical and held virtually. Register for the one that works best for you at the link below.



**OCTOBER 9,
6:00 PM - 7:30 PM**

<https://bit.ly/oct9resilientcoasts>



**OCTOBER 11
10:00 AM - 11:30 AM**

<https://bit.ly/oct11resilientcoasts>



Thank you!

Deanna Moran
Chief Coastal Resilience Officer, MA CZM
Deanna.moran@mass.gov